

Fig. 1.

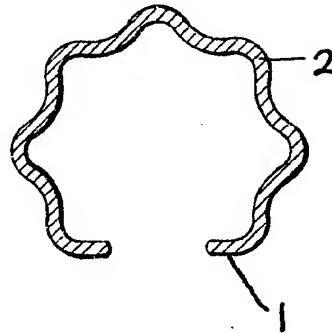


Fig. 2.

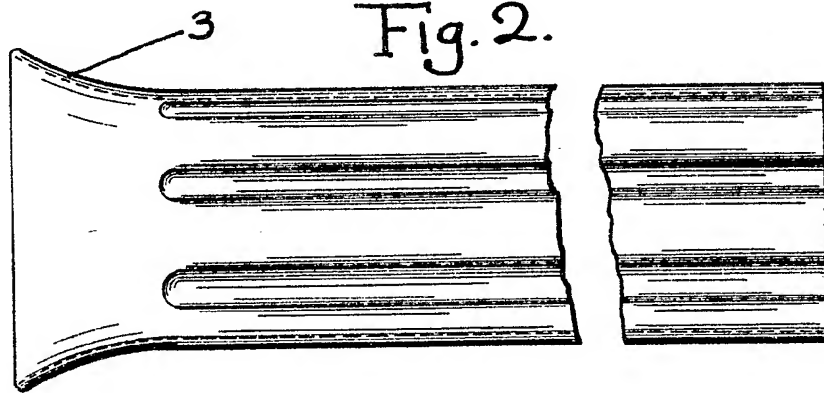
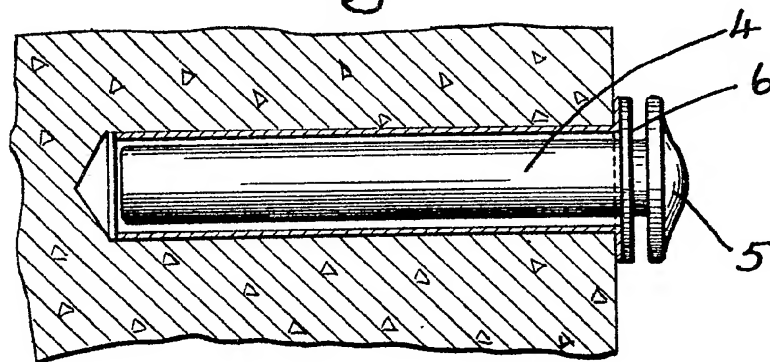


Fig. 3.



[This Drawing is a full-size reproduction of the Original.]

Note.—The application for a Patent has become void.

This print shows the Specification as it became open to public inspection on May 1, 1933,  
under Section 91 (3) (a) of the Patents and Designs Acts, 1907 to 1932.

## PATENT SPECIFICATION

414.631

Application Date: Oct. 31, 1932. No. 30,527/32.



Complete not Accepted.

## COMPLETE SPECIFICATION.

## Bolt Retainer.

I, HERMANN FACKLAM, of Drottning-  
gatan 66, Stockholm, Sweden, a subject  
of the King of Sweden, do hereby declare  
the nature of this invention and in what  
5 manner the same is to be performed, to  
be particularly described and ascertained  
in and by the following statement:—

This invention relates to a bolt  
retainer, that is an arrangement for  
10 retaining bolts, nails, screws and the like  
in materials of different kinds, such as  
concrete, stone, brick, marble, glass,  
wood and the like. For such purposes it  
has been proposed to use a metal-sleeve  
15 with edge-shaped corrugations, a threaded  
bolt member projecting into said sleeve  
and a wedge-member having threaded  
engagement with said bolt member and a  
frictional engagement with said sleeve.  
20 By using this bolt-retainer it is always  
necessary to have a bore of right dia-  
meter in the material beforehand. For  
the same purpose it has also been used a  
cone-shaped metal-sleeve, provided with  
25 elevations, said sleeve being inserted in  
a bore in the material, a wood-plug being  
inserted in said sleeve and a nail or screw  
being inserted in said plug.

The aim of this invention is to simplify  
30 and improve the existing arrangements  
in such a way that a safe engagement can  
be obtained with very simple means.  
The arrangement according to this inven-  
tion consists of a sleeve, preferably of  
35 sheet-iron longitudinally split-up and pro-  
vided with corrugations of almost con-  
stant height preferably longitudinally  
along the sleeve. In using this new and  
improved bolt retainer for anchoring a  
40 bolt, nail, screw or the like in hard  
material a bore of suitable diameter is  
made in the material, the corrugated  
sleeve is inserted in the bore. The bolt  
which is of larger diameter than the inner  
45 diameter of the sleeve is inserted into the  
sleeve, the corrugations of said sleeve  
being pressed against the inside of the  
bore and the inside of said sleeve being

pressed against the bolt, nail screw or the  
like which thereby is effectively engaged  
50 in the bore with the material. In soft  
material the sleeve can be hammered  
directly in the material without making  
a bore beforehand, the material inclosed  
55 in the sleeve then being removed in order  
to give place to the bolt, nail or screw.  
Said member can be provided with a head  
formed in a suitable manner for engag-  
ing the object to be anchored in the mem-  
60 ber.

In order to explain this invention more  
fully reference is made to the accom-  
panying drawing, in which

Fig. 1 is a cross section of the sleeve,

Fig. 2 is a lateral view of the same,

Fig. 3 is a longitudinal section of the  
corrugated sleeve inserted in a wall with  
a bolt in the sleeve in elevation.

The corrugated sleeve 1 is split-up  
70 longitudinally. The corrugations 2 are  
of the same height longitudinally. The  
outer end of the sleeve may alternatively  
be without corrugations and a little wider  
than the inner diameter of the sleeve as  
75 shown in 3 in Fig. 2, in order to facilitate  
the insertion of the bolt in the sleeve.  
The diameter of the bolt shall be a little  
larger than the inner diameter of the  
sleeve. 5 is a bolt-head for engaging the  
80 object to be anchored. The sleeve can  
also be round and not corrugated at the  
former end, that is the end which is first  
inserted in the material.

It is to be observed that although in the  
85 drawing the corrugations are shown to be  
straight they may alternatively extend  
along the sleeve in other manner for  
instance more or less spirally or as a  
screw thread, the main feature of the  
90 invention residing in the fact that the  
sleeve is split-up and provided with pro-  
jections adapted to engage with the  
material in combination with a bolt  
95 without using any auxiliary means for  
anchoring the bolt.

In material with a tendency to surface

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cracking a safe engagement can be obtained by insertion of a short corrugated sleeve of a smaller diameter inside and in the former end of the corrugated sleeve of the bolt retainer, the shorter sleeve being pressed against the outer sleeve by a wedge-shaped end of a screw, bolt, nail or the like. The corrugations of the inner sleeve should fit into the corrugations of the outer sleeve, and also the inner sleeve being split-up.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. Retaining means for bolts, nails screws or the like in concrete, cement, stone, marble, glass, wood and the like consisting of a sleeve split-up in longitudinal direction and provided with projections adapted to engage with the material.

2. Retaining means according to claim 1 provided with corrugations extending

essentially in the longitudinal direction of the sleeve.

3. Retaining means according to claim 1 and 2 provided with projections, one or both ends of the sleeve being without projections.

4. Retaining means according to claim 1, 2 and 3 provided with projections, one end of the sleeve being widened in diameter.

5. Retaining means according to claim 1, 2, 3 and 4 provided with projections of almost constant height.

6. Retaining means according to claim 1, 2, 3, 4 and 5 in the sleeve of the bolt retainer being inserted in the former end a shorter, split-up sleeve of smaller diameter, provided with corrugations fitting into the corrugations of the outer sleeve, the inside sleeve being pressed against the outer sleeve by way of a wedge-shaped end of a screw, bolt, nail or the like.

Dated this 31st day of October, 1932.

MARKS & CLERK.